

Comparison Chart

U.S. Patent Application No. 10/079,733

March 8, 2005

New Claim	Allowed Material Claim	Comment
<p>90. (old claim 48) A method for controlling flow in a fuel cell, comprising: producing electrical energy in the fuel cell; and actuating <u>a thermally-sensitive actuator</u> based on a temperature of the fuel cell for controlling a flow, wherein said actuator comprises a shape memory material and/or a bimetal material.</p>	<p>85. (allowed) A thermally sensitive actuator for controlling a flow of a fluid to/from the fuel cell comprising: a bi-metal material and/or a <u>shape-memory alloy</u>.</p>	<p>As you can see, the features recited in allowed independent claim 85 (<i>a bi-metal material and/or a shape-memory alloy</i>) are included in new method claim 90, which is based on the canceled method claim 48.</p>
<p>95. (old claim 60) A method for controlling a flow in a fuel cell, comprising: producing electrical energy in said fuel cell; providing a flow of a fluid to a fuel mixture of said fuel cell in response to said production of electrical energy; and expanding a first material <u>in response</u> to a fuel concentration of said fuel mixture, wherein expansion of said first material controls said flow.</p>	<p>87. (allowed) A fuel concentration-actuated valve for controlling a fluid flow in a fuel cell comprising a first material which expands <u>in direct relation to fuel concentration</u>.</p>	<p>As can be seen, all the features of allowed independent claim 87, "<i>a first material which expands in direct relation to fuel concentration</i>" is included in new claim 95, which is based on canceled method claim 60.</p>

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<p>99. (old claim 67) A method for determining a concentration of fuel in a fuel cell comprising: <u>providing a dimensionally variable first material capable of expansion and contraction in relation to a concentration of fuel in a fuel cell, wherein a conductor is disposed on or within the first material;</u></p> <p>flowing an electrical current through said conductor; and</p> <p>measuring an electrical property of said conductor, wherein as fuel concentration changes, the first material expands resulting in a proportionate change to the electrical property of said conductor.</p>	<p>87. (allowed) A fuel concentration-actuated valve for controlling a fluid flow in a fuel cell comprising <u>a first material which expands in direct relation to fuel concentration.</u></p>	<p>As can be seen, all the features of allowed independent claim 87, "a first material which expands in direct relation to fuel concentration" is included in new claim 99, which is based on canceled method claim 67.</p>

Thus, new claims 90, 95 and 99 all include all the features of an allowed, broad independent claim to which the method claim relates. We also included a statement as required in the remarks section in the 312 Amendment.

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